

ABSTRACT OF THE DISCLOSURE

A fuse sense circuit has a sense amplifier and a post amplifier (gain stage). The sense amplifier has a reference branch and one or more sense (or fuse) branches. The fuse sense circuit determines the state of the fuses using sense currents and provides much higher gain than prior art. The post amplifier is a scaled replica of the reference branch or one of the sense branches in that the devices in the post amplifier maintain the same ratio as similar devices in the reference branch, and components in the post amplifier each matches components in the reference branch. The sense amplifier output is interpreted by the post amplifier's matched gain stage and has a trip point that sufficiently tracks the reference voltage. The result is reduced process and voltage sensitivity, which allows lower differential fuse resistance to be accurately detected with a non-ideal sense amplifier. Multiple gain stages may be added to multiple sense branches for redundancy and single-ended sensing.